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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,853	06/24/2003	Yung-Nien Chang	105576-0065-101	9278

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EXAMINER	
LONG, SCOTT	

ART UNIT	PAPER NUMBER
1633	

MAIL DATE	DELIVERY MODE
02/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/602,853	CHANG ET AL.	
	Examiner	Art Unit	
	SCOTT D. LONG	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-96* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38-96* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The examiner acknowledges receipt of Terminal Disclaimer, and Applicant's Remarks, filed 31 August 2007.

Priority

This application appears to be a division of U.S. Patent No. 6638762 B1. A later application for a distinct or independent invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in an earlier or parent application is known as a divisional application or "division." The divisional application should set forth the portion of the earlier disclosure that is germane to the invention as claimed in the divisional application.

Therefore, the instant application has been granted the benefit date, 28 November 1994, from the application 08/348258 (abandoned).

Claim Rejections – Double Patenting

Since the applicant has filed a Terminal disclaimer over claims 12-18 and 20 of U.S. Patent No. 5,998,205, the rejection of claims 38-96 are moot. Therefore, the examiner hereby withdraws the rejection of claims 38-96 under obviousness double patenting.

NEW GROUNDS OF REJECTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 38-96 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a virion comprising a tissue specific replication-conditional adenoviral vector comprising a heterologous tissue specific promoter/enhancer selected from the group consisting of α-fetoprotein promoter, erb-B2 promoter, and a surfactant promoter, does not reasonably provide enablement for virions comprising a tissue specific replication-conditional adenoviral vector comprising a heterologous tissue specific promoter/enhancer selected from the group consisting of a thymidine kinase promoter, MUC1/DF3 promoter, a p21 promoter, and a cyclin promoter . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The factors to be considered in determining whether undue experimentation is required are summarized *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). The Court in *Wands* states: "Enablement is not precluded by the necessity for some 'experimentation.'" Clearly, enablement of a claimed invention cannot be predicated on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single simple factual determination,

but rather is a conclusion reached by weighing many factual considerations." (*Wands*, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount for a prima facie case is discussed below.

SCOPE OF THE INVENTION

The breadth of the claims encompasses a virion comprising a genus of tissue specific promoters. The specification only discloses and provides guidance for certain "tissue specific" promoters/enhancers.

GUIDANCE & WORKING EXAMPLES

The specification defines "tissue-specific promoter" as referring to transcription regulatory regions that function selectively or preferentially in a specific cell type (page 21, lines 11-14). The specification explicitly states a "tissue-specific promoter may be, but is not limited to, AFT, PSA, CEA, DE3, α-fetoprotein promoter, Erb-B2, surfactant" (page 27, lines 27-29). Therefore, the examiner concludes that the claimed promoters, α-fetoprotein promoter, erb-B2 promoter, and a surfactant promoter are enabled for tissue specific control of Adenoviral replication. However, the specification does not

enable thymidine kinase promoter, MUC1/DF3 promoter, p21 promoter, and cyclin promoter for tissue specific control of Adenoviral replication.

The specification does not indicate that a thymidine kinase promoter can be used to control replication of adenoviral vectors. The specification also does not indicate that the thymidine kinase promoter is actually tissue specific. In fact the modulation of adenoviral vector replication by expression of thymidine kinase protein in the presence of gancyclovir can occur in any tissue, whether expressed by a TK promoter or other promoter. The specification describes a heterologous transcription regulation sequence consisting of a DF3-mucin enhancer and a "basal promoter derived from the *Herpesvirus* TK promoter" (page 45, line 18). In this example, the specification does suggest that the TK promoter is actually tissue specific. Rather, the specification indicates "the basal promoter of the *Herpesvirus* TK gene…gives low level basal activity in a variety of cells" (page 45, lines 30-31).

The specification suggests that MUC1 enhancer is breast cancer-specific, "[t]he DF3 breast carcinoma associated antigen (MUC1) is highly over expressed in human breast carcinomas" (page 45, lines 13-14). However, the art teaches "the presence of MUC1 in various normal tissues and organs has been well documented…in mammary gland, salivary glands, esophageal epithelium, stomach, pancreas, bile ducts, lung epithelium, kidney, bladder, uterus, and rete testis" (Patton et al. Biochimica et Biophysica Acta 1995; 1241:418, section 7.2 Organs/tissues). Therefore, the examiner concludes that MUC1 enhancer is not actually tissue specific. In addition, Patton et al. indicates that MUC1 expression occurs in healthy mammary gland, endometrium, and

gall bladder, specifically. The examiner believes that the art does not support the specification's assertion that "MUC1 enhancer is breast cancer-specific."

The sole mention of p21 and cyclin promoters is in the instantly filed claims. The body of the specification does not provide guidance for using p21 or cyclin promoters in a virion comprising a tissue specific replication-conditional adenoviral vector comprising a heterologous tissue specific promoter/enhancer.

Therefore, the specification does not provide sufficient guidance on how to make and use a thymidine kinase promoter or a MUC1/DF3 promoter or a p21 promoter or a cyclin promoter in a virion comprising a tissue specific replication-conditional adenoviral vector comprising a heterologous tissue specific promoter/enhancer.

STATE OF THE ART & QUANTITY OF EXPERIMENTATION

The art teaches "the presence of MUC1 in various normal tissues and organs has been well documented…in mammary gland, salivary glands, esophageal epithelium, stomach, pancreas, bile ducts, lung epithelium, kidney, bladder, uterus, and rete testis" (Patton et al. Biochimica et Biophysica Acta 1995; 1241:407-424, specifically page 418, section 7.2 Organs/tissues). Therefore, the examiner concludes that MUC1 enhancer is not actually tissue specific. In addition, Patton et al. indicates that MUC1 expression occurs in healthy mammary gland, endometrium, and gall bladder, specifically. The examiner believes that the art does not support the specification's assertion that "MUC1 enhancer is breast cancer-specific." Consequently,

there is ample reason to conclude that there would be a high degree of unpredictability in an embodiment of the instant invention which uses MUC1 enhancer.

The art also teaches that p21 expression occurs in many tumor tissues, including prostate, breast, lung, bladder, and head-and-neck (Aaltomaa et al. The Prostate. 1999; 39:8-15, specifically page 13, col.2, 1st parag.). Therefore, the examiner believes that elevated expression of p21 may be associated with tumors, elevated expression of p21 is not necessarily "tissue specific."

The art also teaches that cyclin D3 is expressed in normal and neoplastic tissues (Doglioni et al. Journal of Pathology; 1998; 185(2): 159-166). Accordingly, the examiner does not believe cyclin promoters can be used to in a truly tissue specific replication-conditional adenovirus vector.

CONCLUSION

In conclusion, given the breadth of the claims and the limited scope of the specification, an undue quantity of experimentation is require to make and use the invention beyond the scope of a virion comprising a tissue specific replication-conditional adenoviral vector comprising a heterologous tissue specific promoter/enhancer, wherein the heterologous tissue specific promoter/enhancer is selected from the group consisting of α-fetoprotein promoter, erb-B2 promoter, and a surfactant promoter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 38-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson et al., et al., (US Patent No. 5,698,443) in view of Woo et al., (US Patent No. 5,631,236.

The claims are readable on a virion comprising an expression adenovirus vector and a cell comprising a first coding sequence operably linked to a tissue-specific promoter wherein the gene product of the first coding sequence is essential for vector replication, and a second heterologous gene sequence encoding a gene product with anti-tumor activity in the cells.

Henderson et al., teach an adenovirus vector comprising an adenovirus early gene essential for replication under the transcriptional control of a regulatory sequence, said regulatory sequence comprising an enhancer and promoter specific for control by prostate cancer cells, for expression of a prostate specific antigen (claim 1; column 3, lines 2-17). Additionally, Henderson discloses an adenovirus vectors comprising at least one of the genes E1A, E1B or E4 and a transgene under the transcriptional control of a prostate cell specific response element (claims 5-7). Henderson further teaches that is routine in the art to employ transcriptionally initiation regions that are only transcriptionally active in the target cells of interest for replication of competent adenovirus vectors, where a transgene (e.g., heterologous gene) under a cell specific promoter may also be present (col. 2, 54-61). Additionally, Henderson describes that the adenovirus vector is a vehicle for introducing new genetic capability, particularly associated with cytotoxicity for treating neoplasia (e.g. cancerous cell) (col. 6, 25-34).

Comment [a1]: Try not to use the word "anticipates" in a 103 rejection.

Henderson et al., do not specifically teach other tissue specific promoters such as alpha-fetoprotein and erb-B2.

However, at the time the invention was made, Woo et al., (US Patent No. 5,631,236) is exemplified art that teaches delivering of a recombinant adenoviral vector containing the herpes simplex virus-thymidine kinase gene under the control of tissue specific promoters for effective treatment of localized solid tumors and papilloma (col. 1, lines 6-11). Moreover, Woo et al., discloses in Table II a list of tissue specific promotes that are well known in the art at the time the invention was made including Erb-B2 (e.g., for breast and G.I. delivery) alpha fetoprotein (e.g., for liver delivery).

Comment [a2]: There is no need for you to find art for each of the promoters in these dependent claims. They are claiming a group of promoters, you only have to find art on one of them.

Therefore, it would have been obvious for one of ordinary skill in the art to have employed any of the known tissue specific promoters including Erb-B2 and alpha fetoprotein as exemplified by Woo et al., in the vector taught by Henderson in order to target expression of a gene of interest in a cell with a reasonable expectation of success, particularly since Henderson teaches the advantage of using a replication competent vector containing a tissue specific promoter operably linked to a coding sequence essential to adenoviral replication. Thus, one of ordinary skill in the art would have been motivated to have employed any of the known specific promoters, including Erb-B2 (e.g., for breast and G.I. delivery) alpha fetoprotein (e.g., for liver delivery), as exemplified by Woo et al., in the vector taught by Henderson in order to enhance expression of a gene of interest in a cell.

Therefore the virion as taught by Henderson et al. in view of Woo et al. would have been *prima facie* obvious over the virion of the instant application.

Claims 38-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson et al., et al., (US Patent No. 5,698,443) in view of Brichard et al., (J. of Experimental Medicine 178:489-495, 1993).

The claims are readable on a virion comprising an expression adenovirus vector and a cell comprising a first coding sequence operably linked to a tissue-specific promoter wherein the gene product of the first coding sequence is essential for vector

replication, and a second heterologous gene sequence encoding a gene product with anti-tumor activity in the cells.

Henderson et al., teach an adenovirus vector comprising an adenovirus early gene essential for replication under the transcriptional control of a regulatory sequence, said regulatory sequence comprising an enhancer and promoter specific for control by prostate cancer cells, for expression of a prostate specific antigen (claim 1; column 3, lines 2-17). Additionally, Henderson discloses an adenovirus vectors comprising at least one of the genes E1A, E1B or E4 and a transgene under the transcriptional control of a prostate cell specific response element (claims 5-7). Henderson further teaches that is routine in the art to employ transcriptionally initiation regions that are only transcriptionally active in the target cells of interest for replication of competent adenovirus vectors, where a transgene (e.g., heterologous gene) under a cell specific promoter may also be present (col. 2, 54-61). Additionally, Henderson describes that the adenovirus vector is a vehicle for introducing new genetic capability, particularly associated with cytotoxicity for treating neoplasia (e.g. cancerous cell) (col. 6, 25-34).

Comment [a3]: Try not to use the word "anticipates" in a 103 rejection.

Henderson et al., do not specifically teach other tissue specific promoters such as tyrosinase.

However, at the time the invention was made, Brichard et al., is exemplified art that teaches delivering of a tyrosinase gene directing expression of the antigen recognized by cytolytic T lymphocytes (CTL) to stimulate antitumor CTL (p. 489, col. 1-2; p. 490, col. 1) .

Therefore, it would have been obvious for one of ordinary skill in the art to have employed any of the known tissue specific promoters including tyrosinase as exemplified by Brichard et al., in the vector taught by Henderson in order to target expression of a gene of interest in a cell with a reasonable expectation of success, particularly since Henderson teaches the advantage of using a replication competent vector containing a tissue specific promoter operably linked to a coding sequence essential to adenoviral replication. Thus, one of ordinary skill in the art would have been motivated to have employed any of the known specific promoters, including tyrosinase, as exemplified by Brichard, in the vector taught by Henderson in order to enhance expression of a gene of interest in a cell.

Therefore the virion as taught by Henderson et al. in view of Brichard et al. would have been *prima facie* obvious over the virion of the instant application.

Claims 38-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson et al., et al., (US Patent No. 5,698,443) in view of Abe et al., (PNAS, 90:282-286, 1993; IDS 6/24/2003, item AR).

The claims are readable on a virion comprising an expression adenovirus vector and a cell comprising a first coding sequence operably linked to a tissue-specific promoter wherein the gene product of the first coding sequence is essential for vector replication, and a second heterologous gene sequence encoding a gene product with anti-tumor activity in the cells.

Henderson et al., teach an adenovirus vector comprising an adenovirus early gene essential for replication under the transcriptional control of a regulatory sequence, said regulatory sequence comprising an enhancer and promoter specific for control by prostate cancer cells, for expression of a prostate specific antigen (claim 1; column 3, lines 2-17). Additionally, Henderson discloses an adenovirus vectors comprising at least one of the genes E1A, E1B or E4 and a transgene under the transcriptional control of a prostate cell specific response element (claims 5-7). Henderson further teaches that is routine in the art to employ transcriptionally initiation regions that are only transcriptionally active in the target cells of interest for replication of competent adenovirus vectors, where a transgene (e.g., heterologous gene) under a cell specific promoter may also be present (col. 2, 54-61). Additionally, Henderson describes that the adenovirus vector is a vehicle for introducing new genetic capability, particularly associated with cytotoxicity for treating neoplasia (e.g. cancerous cell)(col. 6, 25-34).

Comment [a4]: Try not to use the word "anticipates" in a 103 rejection.

Henderson et al., do not specifically teach other tissue specific promoters such as DF3.

However, at the time the invention was made, Abe et al., is exemplified art that teaches the promoter region regulating transcription of the DF3 gene in human MCF-7 breast cancer cells (p. 282, col. 1) .

Therefore, it would have been obvious for one of ordinary skill in the art to have employed any of the known tissue specific promoters including DF3 as exemplified by Abe et al., in the vector taught by Henderson in order to target expression of a gene of interest in a cell with a reasonable expectation of success, particularly since Henderson

teaches the advantage of using a replication competent vector containing a tissue specific promoter operably linked to a coding sequence essential to adenoviral replication. Thus, one of ordinary skill in the art would have been motivated to have employed any of the known specific promoters, including DF3, as exemplified by Abe, in the vector taught by Henderson in order to enhance expression of a gene of interest in a cell.

Therefore the virion as taught by Henderson et al. in view of Abe et al. would have been *prima facie* obvious over the virion of the instant application.

Claims 38-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson et al., et al., (US Patent No. 5,698,443) in view of Smith et al., (Human Gene Therapy 5:29-35, 1994; IDS submitted 6/24/2003, item AA)

The claims are readable on a virion comprising an expression adenovirus vector and a cell comprising a first coding sequence operably linked to a tissue-specific promoter wherein the gene product of the first coding sequence is essential for vector replication, and a second heterologous gene sequence encoding a gene product with anti-tumor activity in the cells. Claim 40 further limits the invention to a method of producing a virion comprising said vector.

Henderson et al., teach an adenovirus vector comprising an adenovirus early gene essential for replication under the transcriptional control of a regulatory sequence,

said regulatory sequence comprising an enhancer and promoter specific for control by prostate cancer cells, for expression of a prostate specific antigen (claim 1; column 3, lines 2-17). Additionally, Henderson discloses an adenovirus vectors comprising at least one of the genes E1A, E1B or E4 and a transgene under the transcriptional control of a prostate cell specific response element (claims 5-7). Henderson further teaches that is routine in the art to employ transcriptionally initiation regions that are only transcriptionally active in the target cells of interest for replication of competent adenovirus vectors, where a transgene (e.g., heterologous gene) under a cell specific promoter may also be present (col. 2, 54-61). Additionally, Henderson describes that the adenovirus vector is a vehicle for introducing new genetic capability, particularly associated with cytotoxicity for treating neoplasia (e.g. cancerous cell)(col. 6, 25-34).

Comment [a5]: Try not to use the word "anticipates" in a 103 rejection.

Henderson et al., do not specifically teach other tissue specific promoters such as surfactant.

However, at the time the invention was made, Smith et al., is exemplified art that teaches the promoter region regulating transcription of the human surfactant protein A (SPA) gene in non small cell lung cancers (NSCLC) (p. 29, col. 1) .

Therefore, it would have been obvious for one of ordinary skill in the art to have employed any of the known tissue specific promoters including surfactant as exemplified by Smith et al., in the vector taught by Henderson in order to target expression of a gene of interest in a cell with a reasonable expectation of success, particularly since Henderson teaches the advantage of using a replication competent vector containing a tissue specific promoter operably linked to a coding sequence

essential to adenoviral replication. Thus, one of ordinary skill in the art would have been motivated to have employed any of the known specific promoters, including surfactant, as exemplified by Smith, in the vector taught by Henderson in order to enhance expression of a gene of interest in a cell.

Therefore the virion as taught by Henderson et al. in view of Smith et al. would have been *prima facie* obvious over the virion of the instant application.

Provisional Rejection, Obviousness Type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422

F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 38-96 are provisionally rejected on the ground of nonstatutory double patenting over claims 19-23, 26-34 and 36-40 of copending Application No. 11/601071. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

A tissue-specific replication-conditional adenovirus vector comprising a heterologous tissue-specific transcriptional regulatory sequence operably linked to the

coding region of a gene that is essential for replication of said vector, an isolated cell containing a tissue-specific conditional replication vector and a method for producing said virion.

Because claims 38-96 of the instant application are drawn broadly to a cell containing a tissue tissue-specific replication-conditional vector comprising at least a tissue specific transcriptional regulatory sequenced operably linked to the coding region of a gene that is essential for replication of said vector, claims 19-23, 26-34 and 36-40 of the instant application embrace the invention as set forth in claims 19-23, 26-34 and 36-40 of copending Application No. 11/601071.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Rejection, Obviousness Type Double Patenting-No secondary Reference(s)

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 38-96 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-87 of U. S. Patent No. 6,551,587, filing date Dec 15, 1998. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-87 of the '587 patent and claims of this instant application are all encompass by:

A tissue-specific replication-conditional adenovirus vector comprising a heterologous tissue-specific transcriptional regulatory sequence operably linked to the coding region of a gene that is essential for replication of said vector, an isolated cell containing a tissue-specific conditional replication vector and a method for producing said virion.

Because claims 1-87 of the '587 patent are drawn broadly to a tissue tissue-specific replication-conditional adenovirus comprising a genus of variants of promoters and enhancers and an isolated cell comprising the tissue-specific replication conditional

adenovirus vectors or virion produced thereof, and a method for making the tissue-specific replication conditional adenovirus vector or virion, embrace the invention as set forth in claims 38-96 of the instant application. It would have been obvious to one of ordinary skill in the art that the adenovirus vector cited in the presently pending claims are obvious variants of the adenovirus vectors claimed in the patents, particularly since the three sets of claims encompass expression adenovirus vectors comprising a first coding sequence operably linked to a tissue-specific promoter wherein the gene product of the first coding sequence is essential for vector replication, and a coding sequence of a protein operably linked to a promoter. Hence the tissue-specific replication-conditional adenovirus vector claimed in the '587 patent and this instant application are obvious variants of one another. Therefore, the inventions as claimed are co-extensive.

Conclusion

No claims are allowed.

Examiner Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Scott Long** whose telephone number is **571-272-9048**. The examiner can normally be reached on Monday - Friday, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Joseph Woitach** can be reached on **571-272-0739**. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/SDL/
Scott Long
Patent Examiner
Art Unit 1633

/Janet L. Epps-Ford/

Primary Examiner, Art Unit 1633